Basic Rocks in Maryland. — A series of acid and basic rocks intrude the gneisses of northeastern Maryland, and these in turn are cut by extensive dykes of granite and pegmatite. The principal types are biotite granite, diorite, tonalite, norite, hypersthene-gabbro, pyroxenite, peridotite, and serpentine. The order of eruption seems to have been norite and gabbro, diorite and granite. The last two rocks are connected by gradation phases, and this is thought to be evidence that their difference in age is not great. The peridotites and pyroxenites are mainly younger than the norites and gabbros, but some of the pyroxenites are apparently peripheral phases of the norite.

The succession taken as a whole is supposed to "furnish an example of the occurrence of several rock types which represent the facies of a single magma and unite to form a geological unit."

The serpentines were derived partly from the peridotites and partly from the pyroxenites. In the latter change the hypersthene and diallage first alter into fibrous hornblende, and this later passes into the serpentine. The area is very similar in its essential features to the Delaware area of gabbros described by Chester and the Baltimore area described by Williams. The distinguishing features of the present area are (1) the abundance of diorite, (2) the comparative rarity of gabbro-diorite, and (3) the great abundance of pegmatite and granite dykes.[1]

Rock Structure. — The study of a series of andesitic and rhyolitic rocks that occur as extrusives in the Great Basin region suggests to Spurr[2] that the differences in structure of igneous masses may be brought about by slight changes in conditions under which crystallization took place. Among the differences which affect structure may be mentioned slight changes in the rate of cooling. Textural variations are less common in acid than in basic extrusives because in the latter the viscosity varies more rapidly with rapid cooling than in the former. The more important structures are not characteristic of particular rocks, but are the functions of the relation between viscosity and cooling rate. Structure therefore cannot, according to the author, be made the principal element in rock classification.

[1] Leonard, A. G. *Amer. Geol.* (1901), p. 135.
[2] *Journ. Geol.*, vol. ix (1901), p. 586.